

# THE ARCHAEOLOGY OF ANCIENT CIVILIZATIONS

**C. J. Scarre**

*McDonald Institute for Archaeological Research, University of Cambridge, UK*

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## Summary

Early state societies (civilizations) developed in areas of the world where intensive agricultural systems could be developed to produce food on the scale necessary to support relatively large and dense populations. The centralized structure of these states contributed to the process of intensification and agricultural investment, though in most cases direct state involvement appears not to have been the crucial driving force. The high productivity and larger populations were achieved only at the cost of greater risk, and many state societies lived in an increasingly fragile relationship to their natural environment. The integrative functions of central authority—notably the ability to undertake substantial civil engineering projects and to redistribute foodstuffs and raw materials—enabled state societies to overcome periodic flood or famine. Many societies survived and flourished to become the predecessors of modern urban societies. In other cases, however, climatic events, environmental change, and soil erosion or salination rendered high population levels impossible to sustain and resulted in classic instances of economic collapse such as the Maya of Mesoamerica, or the Harappan cities of the Indus valley.

## 1. Introduction

The environmental setting of early state societies—“civilizations” in traditional terminology—has attracted considerable attention and commentary. Nineteenth and early twentieth century views emphasized the success of these societies, in terms of

their high population densities and their achievements in art, literature, and technology. They were seen as representing an “advance” from the less complex or small-scale societies that preceded them. Interpretations from Morgan to Childe placed state societies at the culmination of an evolutionary progress which led from hunter-gatherers to early farmers and finally to civilization. This perspective found new life in the model of social evolution proposed by Elman R. Service, which classified human social organization into four types or stages: bands, tribes, chiefdoms, and states. This model has been espoused in modified form by a number of recent researchers and still figures in standard texts.

From the 1920s, these unidirectional models were called into question by some who argued that civilizations followed regular cyclical patterns of growth, maturity and decline. One of the most influential proponents of such a view was Arnold Toynbee who in *A Study of History* charted the rise and fall of several state societies. Others went further and characterized civilizations as essentially pathologies that were damaging to the natural world. Writers increasingly espoused such views in the ecologically sensitive period beginning in the 1960s. One, for example, wrote “Throughout the Mediterranean basin and the neighboring Near East today the ruins of ancient civilization stand around the evidences of depleted environments.” Thus from interpretations which emphasized the achievements of early state societies the focus switched to those which saw them set them in a fragile environment, victim to the same processes of population pressure and ecological deterioration that became so prominent a public concern as the twentieth century progressed.

The archaeology of early state societies may thus be considered from two complementary perspectives. On the one hand, they were made possible by the development of new, complex and highly innovative modes of social, political, and economic organization, resulting in intensification of production to support higher levels of population than non-state societies. On the other hand, the development of these intensive production methods and high population levels placed pressure on resources—and on the societies themselves—which made many of them fragile and vulnerable to landscape degradation and to environmental change. At the root of the problem was the difficulty of achieving a stable adjustment, especially where most states, and the elites that governed them, were locked into competitive processes of growth and expansion. Modern romanticism has also played a part in these debates; there are few sights more evocative than an abandoned Maya temple rising among the forests of Guatemala, or the once great cities of southern Mesopotamia sitting amidst a salty plain. In most cases, however, detailed studies have shown these to be the product of gradual long-term changes rather than sudden cataclysmic disaster. Furthermore, too great an emphasis on such cases overlooks the evidence of continuous settlement in other regions, such as Egypt, where Pharaonic population levels of around 2 million may have risen to 5 million or more in the Ptolemaic period, and over 60 million at the present day.

## **2. Defining Civilizations**

According to the standard dictionary definition to civilize is to reclaim from barbarism, to instruct in arts and refinements. This idea that civilization is a condition superior to

barbarism lives on today in the popular understanding of the word. Anthropologists, however, do not regard civilizations as better than hunter-gatherer societies or those of small-scale farmers, only different. Politically-minded commentators might well draw the opposite conclusion: that the hierarchical civilizations, with their privileged elites and centralized governments, were worse institutions as far as the ordinary peasant farmers or urban populace were concerned.

The use of the term “civilization,” with its associations of progress and superiority, is increasingly eschewed by recent scholars in favor of terms such as complex society or the state. Yet all these terms suffer from similar difficulties of recognition from historical or archaeological evidence. Half a century ago Gordon Childe sought to address this problem by drawing up a list of ten features that he considered societies must possess to qualify as civilizations. The list included cities, monumental architecture, and writing. The limitations of this trait-list approach, however, may be illustrated by the many societies that do not conform to these criteria. The Inca of South America, for example, did not use writing, yet they had centralized government, substantial cities, an ordered and hierarchical society, specialized craft skills, metallurgy, and an elaborate network of roads and wayside stations. Few would deny that they were a state level society, or refuse to class them among the early civilizations of the Americas.

The definition and identification of early states may be difficult, though “state” avoids the value-laden associations of the word “civilization.” In simplest terms, states may be defined as regionally organized societies whose populations number in the hundreds of thousands or millions and often are economically and ethnically diverse. Whether all early states had such high populations is however open to question. Indeed, it can be argued that what differentiates the state from other forms of social organization is not so much its size or scale, as its structure; the differences are more qualitative than quantitative. A crucial feature is the monopoly of physical force which state authorities claim; they alone are responsible for defense and for the maintenance of internal order, through the command of armies and police. Another significant feature is the primary importance in state societies of structures of centralized control and class divisions, which override the kinship bonds that are fundamental to most other types of human society. The elites which establish their separate identity through these mechanisms display their power through conspicuous wealth and consumption, as well as investing and directing effort into large-scale projects of communal labor such as the building of temples or the waging of war.

Such centrally directed labor investment can include agricultural intensification through the digging of irrigation canals, the terracing of hillslopes, or the draining of swamps. In the eighteenth and nineteenth centuries, the development of indigenous states in the Hunza region of Pakistan and on the island of Madagascar was in part fuelled by centrally-directed agricultural projects of this kind, giving these developing polities a decisive advantage over their rivals in terms of population and resources. The classic statement of this view was the theory proposed by Karl Wittfogel who in *Oriental Despotism* argued that irrigation was responsible for the formation of early states in many areas of the world. This theory held that irrigation schemes demanded centralized control and management, giving elites and administrators the opportunity to seize power

and gain economic advantage which led directly to state-level organization. It is certainly the case that large populations require intensive agricultural systems to support them. Investigations in Egypt, Mesopotamia, and Mesoamerica, however, have shown that massive state-organized agricultural schemes began only after those states had come into existence. They were hence a by-product rather than a primary cause of state formation.

A key feature of early states is the city, a center of population usually larger than can be supported by the agricultural produce of its immediate area. Cities differ in functions as well as in size from smaller categories of settlement. They provide markets and craft specialists, serve often as seats of government or local administration, and usually operate as religious centers with important temples or shrines. Many state societies consist simply of a city and its dependent territory, which together form a city-state. Some anthropologists have argued that an important distinction may be made between civilizations based on city-states (such as Mesopotamia, the Maya, or Classical Greece) and those (such as Egypt, the Inca, and Shang China) which were territorial states. Proponents of this view hold that in city-states, the city populace comprised the whole spectrum of society, with craftsmen, farmers, and the elite. The cities themselves were hubs of commercial activity, with flourishing markets. By contrast, in territorial states, the earliest cities were principally political centers. Farmers lived in the rural hinterland in small settlements, secure without walls (since territorial states were less afflicted by internecine strife). It is also argued that in territorial states the interaction between rural farmers and urban centers was largely in the form of taxes paid by the farmers to the city-based bureaucracies. The farmers were less reliant on urban craftsmen and markets than they were in city-state societies.

Contrasts and parallels such as these are thought provoking and invite consideration as to why human societies in very different contexts throughout the world chose to adopt such strikingly similar forms of organization. They also raise questions as to how truly comparable were these early state societies, and whether they are indeed best classified as individual cases of a single phenomenon—state-level organization. The alternative view would argue that each is so different from the others that it should be regarded as an essentially unique phenomenon. Whichever view is preferred, the underlying feature of these societies is their scale and their powerful integrative function, uniting disparate communities into a single political and economic system, and permitting the support of those urban centers and social elites which are hallmark of the term “civilization.”

### **3. The Rise of Civilizations**

Early state societies occupied a range of environmental settings, but in every case the crucial ingredient was the ability to support relatively large and dense populations. Early cities may have been little larger than villages by modern standards—studies suggest, for example, that the population of the smaller Mesopotamian cities may have numbered less than 10000. Nonetheless, even small cities such as this would have placed pressures on the surrounding countryside greatly in excess of those imposed by typical farming villages numbering only a few hundred inhabitants.

The high cost of transporting foodstuffs would have led to heavy reliance on local productivity, and this would have been the essential prerequisite for city formation. Well-known instances of bulk transport—such as the regular shipments of grain from Egypt that supplied the city of Rome from the first century BC—were the exceptions in pre-modern societies. They were based on the economic and political structures of powerful empires and on the availability of water transport, which dramatically reduced costs.

A first option is for cities to be supported by a network of farms and villages in the surrounding countryside, with farmers bringing part of their production to the cities either as tax or tribute, or for market-place exchange in return for city-produced manufactures. A second is for the city-dwellers themselves to be farmers, traveling out to the fields each day. In this formulation, intensive production within a limited area is essential, if there are to be sufficient agricultural yields from fields lying close enough to the cities to be farmed by city residents. In most cases, a combination of both options was probably involved. Surveys of settlement pattern show that urban centers stand at the apex of a hierarchy of settlements (including villages and small towns) in which primary products passed up the hierarchy to support the city populations. It has been shown, for example, that by the Middle Uruk period (mid-fourth millennium BC), urban communities on the Susiana plain of south-western Iran were no longer able to supply all their own needs by cultivating local fields, and must therefore have relied on tribute from subordinate villages. This interdependence between large and small settlements is characteristic of early urban state societies and mirrors the increasing social differentiation between rulers and ruled.

Intensification of agricultural production involved the development of new technologies such as floodwater farming, irrigation, and terracing. The rise of the population centers in turn stimulated a new organization of craft production and the trade and transport of raw materials and manufactures. The need for exchange and imports was especially great in areas such as southern Mesopotamia where the agricultural potential of the land, unlocked by irrigation technology, was associated with a marked lack of many essential raw materials such as metals, stone, and timber.

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### **Biographical Sketch**

**Chris Scarre** is an archaeologist specializing in the prehistory of the western Old World, with a particular interest in the early farming communities of the Atlantic facade (Iberia, France, Britain, and Ireland). He took his MA and PhD at Cambridge, the latter a study of landscape change and archaeological sites in western France. He has participated in fieldwork projects in Britain, France, Greece, and India, and has directed excavations at Neolithic settlement and mortuary sites in western France. He is currently Deputy Director of the McDonald Institute for Archaeological Research, University of Cambridge, Editor of the twice-yearly *Cambridge Archaeological Journal*, and a Fellow of Girton College, Cambridge, where he teaches a wide range of archaeological subjects from early stone tool use in the Palaeolithic to the expansion of the Roman empire. As Deputy Director of the McDonald Institute he has a role in developing the wider research programs of the Institute which include field projects in Europe and the Middle East, and laboratories specializing in the analysis of faunal and botanical remains from archaeological sites. His interest in complex societies focuses on the diversity of early states, and the explanations for their development and decline at the level both of individual human decisions, and large-scale environmental change.